

WHAT IS CLAIMED IS:

- 1 1. A device for facilitating hemostasis of a puncture in the wall of a
2 blood vessel; the device comprising:
3 an introducer for compressing an absorbable sponge pledget for
4 delivery into a patient to seal the puncture, the introducer including a staging
5 chamber with a first diameter configured to receive the absorbable sponge pledget,
6 a delivery chamber with a second diameter smaller than the first diameter, and a
7 tapered section between the staging chamber and the delivery chamber for
8 compressing the pledget; and
9 a plunger insertable into the introducer for ejection of the pledget
10 from the delivery chamber into a patient to seal the puncture in the blood vessel
11 wall.
- 1 2. The device according to Claim 1, wherein the plunger includes a
2 through bore for threading a guidewire through the plunger to accurately place the
3 absorbable sponge pledget at an exterior of the puncture in the blood vessel.
- 1 3. The device according to Claim 1, wherein the staging chamber has a
2 substantially constant diameter and the delivery chamber has a substantially
3 constant diameter.
- 1 4. The device according to Claim 3, wherein the staging chamber has a
2 length shorter than a length of the delivery chamber.
- 1 5. The device according to Claim 1, wherein a proximal end of the
2 introducer has a fitting for connection to a syringe for hydration of the pledget.

1 6. The device according to Claim 1, wherein a distal end of the
2 introducer has a smooth rounded outer surface for insertion into tissue of the
3 patient which is configured to resist entering the puncture.

1 7. The device according to Claim 1, further comprising a depth
2 indicating member positioned on an exterior of the introducer and movable
3 longitudinally with respect to the introducer.

1 8. The device according to Claim 1, further comprising a kneading
2 feature within a lumen of the introducer for compressing, expanding, or changing
3 a shape of the absorbable sponge pledget passing through the lumen.

1 9. The device according to Claim 8, wherein the kneading feature is at
2 least one enlarged diameter section of the lumen.

1 10. A system for facilitating hemostasis of a puncture in the wall of a
2 blood vessel, the system comprising:
3 a tract dilator having a lumen for allowing the tract dilator to be
4 passed over a guidewire;
5 an introducer having a lumen for allowing the introducer to be
6 passed over the guidewire, the introducer lumen including a staging chamber
7 configured to receive an absorbable sponge pledget and a delivery chamber;
8 a plunger having a lumen for allowing the plunger to be passed over
9 the guidewire, the plunger insertable into the introducer for ejection of the pledget
10 from the delivery chamber into a patient to seal a puncture in a blood vessel wall.

1 11. The system according to Claim 10, wherein the staging chamber has
2 a first diameter, the delivery chamber has a second diameter smaller than the first
3 diameter, and a tapered section is positioned between the staging chamber and the
4 delivery chamber for compressing the pledget from the introducer into the
5 delivery chamber.

1 12. The system according to Claim 10, wherein a proximal end of the
2 introducer has a fitting for connection to a syringe for hydrating the absorbable
3 sponge pledget and injecting the pledget from the introducer into the delivery
4 chamber.

1 13. The system according to Claim 10, wherein a distal end of the
2 introducer has a smooth rounded outer surface for insertion into tissue of the
3 patient.

1 14. The system according to Claim 10, further comprising a depth
2 indicating member positioned on an exterior of the tract dilator and a second depth
3 indicating member positioned on the exterior of the introducer for accurately
4 ejecting the absorbable sponge pledget into a patient to seal the puncture in the
5 blood vessel wall.

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15. A method for facilitating hemostasis of a puncture in the wall of a
blood vessel, the method comprising:
3 establishing a depth of a blood vessel puncture of a patient;
4 loading an introducer with an absorbable sponge pledget by
5 hydrating and compressing the pledget;

6 loading the introducer over a guidewire positioned in the blood
7 vessel by inserting the guidewire through the hydrated and compressed pledget;
8 and

9 ejecting the pledget adjacent the blood vessel puncture to facilitate
10 hemostasis while maintaining the guidewire in place.

1 16. The method for facilitating hemostasis of a puncture in the wall of a
2 blood vessel according to Claim 15, wherein the step of establishing a depth of a
3 blood vessel is performed by introducing a tract dilator into a tissue tract until a
4 distal end of the tract dilator abuts an exterior of the blood vessel wall.

1 17. The method for facilitating hemostasis of a puncture in the wall of a
2 blood vessel according to Claim 16, wherein a depth of the tract is indicated by a
3 depth indicating member.

1 18. The method for facilitating hemostasis of a puncture in the wall of a
2 blood vessel according to Claim 15, wherein the step of establishing a depth of a
3 blood vessel is performed by introducing the introducer over the guidewire and
4 into a tissue tract until a distal end of the introducer abuts an exterior wall of the
5 blood vessel.

1 19. The method for facilitating hemostasis of a puncture in the wall of a
2 blood vessel according to Claim 15, wherein the pledget is partially ejected,
3 compression is applied until hemostasis begins, and the pledget is then fully
4 ejected.

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